

Departmental Business Plan and Outlook
Department Name: Information Technology Department
FY2011-12 & FY2012-13



Information Technology Department Business Plan

Fiscal Years: 2012 and 2013
(10/1/011 through 9/30/13)

Approved by:

A handwritten signature in black ink, appearing to read 'Angel Petisco', written over a horizontal line.

Angel Petisco, Department Director

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Ed Marquez, Deputy Mayor

Plan Date: January 1, 2012

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DEPARTMENT OVERVIEW

Department Mission

Enable Service Excellence to our Community through Information, Communication and Technology Solutions

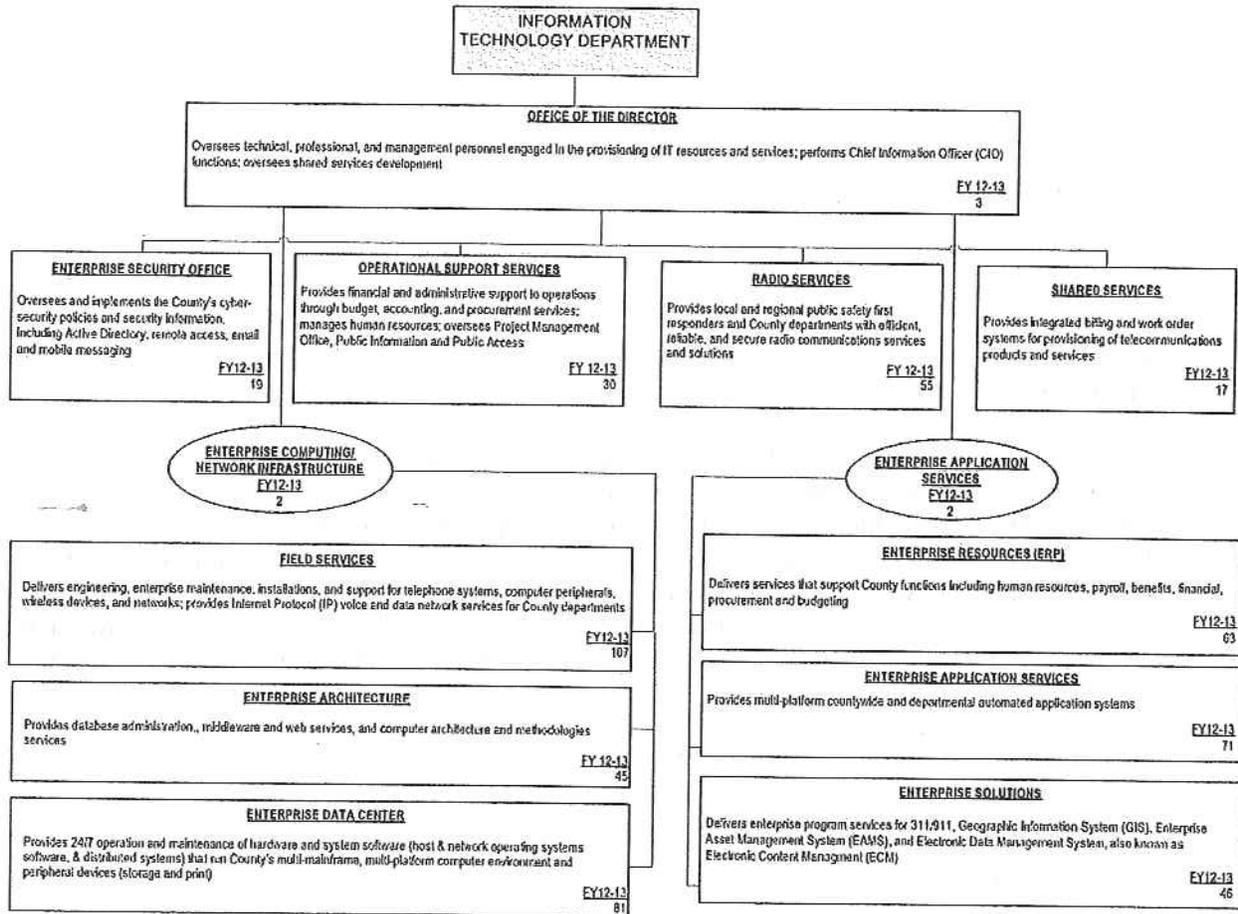
The Information Technology Department (ITD) is the central technology provider for Miami-Dade County. ITD provides information technology services that enable and support the operations of all County departments, external governmental agencies, residents and the public at large, including making information and services easily accessible to citizens and visitors of Miami-Dade County. ITD plans, develops, manages, and maintains a reliable and secure information technology infrastructure, including network, radio and hardware/software platforms, to support countywide and departmental specific applications and services. ITD partners with other County departments and management to implement and maintain technology solutions that enable efficient operations and delivery of County services, and coordinates with the Information Technology Leadership Council (ITLC) on IT policy and practices. The Department establishes business processes to ensure that IT standards, methodologies, security, and project management are implemented in accordance with best practices. Key stakeholders include all County departments, elected officials, Miami-Dade County residents, local businesses, visitors, and the public that visits the County's website worldwide.

Table of Organization

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Strategic Alignment Summary

GG1-1	Provide easy access to information and services	Community Information and Outreach; all departments
GG1-2	Develop a customer-oriented organization	Community Information and Outreach; Internal Services; all departments
GG3-1	Ensure available and reliable systems	Information Technology
GG3-2	Effectively deploy technology solutions	Information Technology
GG3-3	Improve information security	Information Technology; Finance
GG4-2	Effectively allocate and utilize resources to meet current and future operating and capital needs	Office of Management and Budget; all departments
GG5-3	Utilize assets efficiently	Internal Services; Information Technology
GG2-2	Develop and retain excellent employees and leaders	Internal Services; all departments
GG2-4	Provide customer-friendly human resources services	Internal Services; Information Technology



Our Customers

ITD's principal customers are the County's departments and agencies. Other customers include local and municipal entities, many of whom are public safety agencies, the State of Florida, the federal government, and the citizen population of Miami-Dade County. Our citizens have increasingly made use of technological avenues to obtain information and to perform business using the County's readily available technology and information. Miami-Dade County residents expect reliable, secure websites for conducting business with the County. Departments expect a readily available and secure computing and networking infrastructure to support their respective business. They also seek cost-effective and timely solutions to address their business needs. In addition, ITD's customers are increasingly migrating to a "purchase-versus-build" model for software and require technology integration services to tie purchased software into existing systems.

The expectations are consistent among ITD's customer base. The County's departments manage a myriad of unique businesses resulting in different requirements and needs. The development of standardized enterprise-wide policies, deliberated through the County's IT Leadership Council governance process, enables ITD to focus on and address developing enterprise systems and solutions. At present, ITD engages several instruments to obtain customer feedback and gauge satisfaction with its services. The Remedy system is used to log requests for service and trouble calls, and can generate metrics used to evaluate the time for response and resolution of issues. The system also generates an automatic e-mail upon the closing of an open ticket requesting customer feedback through a short on-line survey. ITD's ASE scorecard contains a range of customer-service metrics that are reviewed on a regular basis by ITD senior management.

ITD adheres to federal, state and local government regulations, including the federal Communications Commission (FCC), Health Insurance Accountability and Portability Act (HIPAA), National Incident Management System (NIMS) for Emergency Response, Florida Statutes for the Public Records and Government in Sunshine laws.

The Project Management process utilized for all key projects utilizes a concluding step, "Lessons Learned" that allows the project team and the customer to review the project's successes, shortfalls, and improvements and modifications for the future.

Third, Service Level Agreements (SLAs) are reviewed annually with customers thereby providing the opportunity to gauge satisfaction with ITD services and make adjustments to better serve customer needs. An area targeted for improvement in FY11-12 is ITD's Service Catalog. This on-line resource for ITD's customers is requisite for revamping. The intent is to create a comprehensive and user-friendly listing of IT services that clearly describes ITD's various lines of business and rates that is more customer-centric.

Major customer trends include increased demand for self-service functionality, a desire for on-line and current information that is flexible for business intelligence, greater integration of solutions and more self-evaluating tools where feedback is built into the process. At present, all operating and support areas of ITD are partnering with its customers to implement the approved countywide reorganization concurrently with FY11-12 budget implementation. Through this process, ITD is working with customers to identify opportunities to create additional efficiencies and savings through technology.



KEY ISSUES

To identify ITD's key issues, a SWOT analysis was performed with participation and contribution from all areas of ITD to yield the following results:

Strengths

- Continued partnership with IT governance (ITLC) to formulate enterprise IT business strategy
- Knowledge and professionalism of existing ITD workforce
- Innovations Lab that allows and encourages ITD to leverage in-house training
- Continued partnership with the Office of Management and Budget (OMB) and County management
- Stable, reliable and secure infrastructure
- Strong vendor/partner relationships
- Innovative, proven technology
- Strong application of IT best practices
- Streamlined and improved internal business processes that facilitates the acquisition of goods and services

Weaknesses

- Need enhanced techniques of measuring and tracking results related to priority initiatives
- Need more structured method for assessing customer satisfaction and to understand their business drivers and processes to better advise on leveraging technology to improve process efficiency and effectiveness
- Need to update more customer-focused service catalog
- Poor marketing of ITD's strengths
- Lack of personnel resources to achieve efficiencies
- Deficient Countywide operational readiness or willingness to replace aging legacy systems and move toward a fully integrated financial/procurement/human resource management system (ERP)
- Lack of agility of countywide procurement processes that continue to hamper implementation of priority initiatives and the need for involvement of ITD on pre-solicitation and review of all IT acquisitions along with adequate resourcing for implementation
- Need for proactive processes to allow for streamlined personnel actions
- Need to formalize and document internal business processes
- Continued need for cross-organizational cooperation, collaboration and communication

Opportunities

- IT re-alignment/ re-organization, including the adoption of IT standards, leveraging of IT assets, and streamlining business processes with the goal of reduction of operating costs
- Consolidation of external data centers to realize operational and financial benefits
- Continued investment in staff training and technology, including ability to pursue research and development for innovation
- Improved and more comprehensive service delivery model/approach to include a more customer-focused business catalog

Threats

- Succession planning ability to augment/mentor staff with skills needed for the future
- Absence of finalized bargaining unit contracts and resulting potential personnel actions creates tremendous uncertainty, impedes ITD ability to plan strategically and recruit/retain workforce with required skills.
- Unplanned work associated with Countywide reorganization impacts ITD's ability to deliver on current services and ITD priority initiatives

PRIORITY INITIATIVES

APPLICATIONS MODERNIZATION

The modernization of the County's enterprise legacy applications requires establishing a technology platform and staffing model to support the current and future County's business requirements. This effort includes the implementation of new technologies, leveraging existing solutions, and developing reusable components that will enable the delivery of effective and economical business solutions. Modernization involves migrating to more contemporary technologies as the older legacy systems come to end of life and are no longer supported by vendor partners. Modernization also involves the retooling of staff skills to ensure continued reliable support of County systems. Applications modernization is a priority on several fronts:

Enterprise Resource Planning (ERP)

ERP is a suite of fully integrated financial, procurement and human capital management systems that will replace the disparate legacy systems currently used and deliver substantial efficiencies, increased accountability and responsiveness to County staff and citizens. A fully implemented ERP system will also improve transparency of business, enhance financial planning, and improve management and reporting. An ERP system manages the business process from procure to pay and hire to retire.

The County has selected the Oracle PeopleSoft product as its ERP platform and has implemented the ERP financial and procurement modules in two departments, Water and Sewer and Aviation. ERecruiting has been put into practice countywide and time administration through ePARS has been implemented for 65 percent of County employees as of December, 2011. The goal for future ERP implementation is to improve organizational effectiveness through process efficiency and self service, and to facilitate improved talent acquisition and staff retention. The migration to this platform will enable the retirement of several disparate finance, procurement, payroll and human resources systems which are at risk of losing support in the coming years. This initiative has been "green-lighted" with pending funding approval.

During FY11-12, ITD will be working closely with the OMB, the Finance Department and the IT Leadership Council to evaluate Oracle financing options, secure executive management approval for a five-year implementation and funding plan; establish executive support and mechanisms for ERP governance; create an ERP Center of Excellence (see CoE discussion below); develop a comprehensive workforce transition plan including the performance of detailed job impact analysis and development of change management processes and associated communications plan; and provide technical and functional PeopleSoft training.



Enterprise Content Management (ECM)

ITD is currently implementing modern Enterprise Content Management technology to include functionality for the capture, management and retention of documents. The system enables streamlining of business processes through workflow management utilizing electronic forms and multimedia content. State-of-the-art ECM technology will scale to address current and future County needs for information access, as well as, to facilitate the integration of systems through shared content and code libraries. Operational components include comprehensive search and records retention capabilities assuring compliance with regulations and policies dealing with public information. In addition to providing new functionality, the implementation encompasses migration of documents residing in the current Electronic Document Management System (EDMS), thus leveraging new and existing information by making it readily available to residents, businesses and governmental agencies.

Centers of Excellence (CoE)

A CoE is known as a Competency or Expertise Center. Comprised of expert staff, a CoE promotes collaboration of staff and the use of best practices surrounding a specific focus area to drive business results. A CoE delivers:

- **Support** by offering corroboration to the business lines in their respective area of focus. This may be through the provision of services needed, or by making available subject matter experts (SMEs)
- **Guidance** through standards, best practices within the organization, methodologies, tools and knowledge repositories
- **Shared Learning** via training and certifications, skill assessments, team building and mentoring
- **Governance** thereby ensuring organizations invest in the most valuable projects and create economies of scale for their service offerings; assist with the best allocation of limited resources (e.g., funding, personnel) across all possible uses; and coordinate countywide interests to deliver IT value

A-Form Implementation

Miami-Dade County acquired an automated Arrest Form (A-Form) solution to replace the current paper form. The A-Form solution will be the core electronic repository of arrest information for criminal justice agencies, with the goal to expedite the booking process. All County law enforcement, including municipalities, will participate in the effort to enter arrest information; thereby, making the information electronically available at correctional facilities by the time the law enforcement officer arrives with the arrestee. It is expected that County municipalities and criminal justice partners will be utilizing the A-Form solution to associate supporting documentation for investigative purposes, as well as for statistical and geo-spatial reporting of arrest related information. The implementation strategy is to phase in law enforcement agencies by groups. It is the goal that by the end of the grant period, Miami-Dade Corrections and Rehabilitation Department will no longer accept paper arrest forms to process prisoners.



Business Intelligence

The current business intelligence initiative has burgeoned into a successful implementation enhancing the ability for better decision making and predicting trends by analyzing and displaying information in the form of dashboards and drill downs. Examples of dashboards that have been developed providing a graphical view of county information include County employee data, public safety incident response information, and green business initiatives.

Enterprise business analytics will be upgraded to the most current versions and will be available to all County departments on the web and via mobile devices such as iPhones and iPads. Additional predictive analytics tools will enhance operations by enabling trend analysis on real-time operations information. Predictive analysis tools can assist departments to better refine their reorganization efforts by allowing in-depth analysis of "what-if" scenario modeling.

ITD has concluded that a more customer-centric services catalog is a requirement. It is our goal to implement a catalog, with built-in, self-evaluating mechanisms for gathering customer feedback, which defines the services ITD provides in nomenclature and terminology that is understandable and meaningful to County businesses. As a web based, self-service portal, the catalog will provide the means by which customers can understand the particulars of any service, make a request to receive that service, inquire on the progress of the processes needed to deliver the service and provide feedback on the entire experience. Over time, the catalog will be integrated with back office technology solutions in order to achieve greater efficiencies through automation and ensure that all the information about a request for service is most current. The Countywide reorganization effort will benefit from an improved service catalog. As departments refine their business operations and make IT requests, ITD can identify trends that can impact operations and address these in the most efficient manner.

EXPANSION OF COUNTY CLOUD SERVICES

ITD has analyzed and evaluated cloud services for more than four years. Cloud computing relies on sharing computing resources, as opposed to having local servers or personal devices or computers to handle applications. The goal of cloud computing is to apply traditional high performance computing power to perform efficient computations. To accomplish this, cloud computing networks groups of servers with specialized connections to spread processing chores. This shared IT infrastructure contains large pools of systems linked together; often virtualization is used to maximize the power of cloud computing.

From this research, ITD is working towards being Miami-Dade County's primary cloud, providing for all information technology needs of the County in a cost effective, private, secure and efficient infrastructure environment. Services in the cloud include e-mail, office tools, data storage, secure data backup, data processing servers, both physical and virtual; virtual desktops, and telephony. Security, reliability, availability and cost-effectiveness are the primary objectives of ITD's cloud environment being developed.

On-going monitoring of the market is being performed to ensure ITD remains up-to-date with the latest technological advances and remains competitive from a cost perspective. As such, ITD will continue to evaluate the merits of utilizing external cloud services on a case by case basis when it is not cost beneficial to host in-house and will remain the cloud agent on behalf of the County.

The major projects associated with the continued development of the County's cloud services are:

Continued Secure Environment for Co-location and Hosting Services

Establishment of a secured server, network and storage environment is essential for customers in order to be able to co-locate or host customer systems within a centralized and managed facility. This is currently deployed and expandable as needed.

Network Edge Switches

Deployment of a new network edge switches (end computer connections) will allow for higher through-put required for unified communication services such as video, data and voice. This initiative is presently being launched with flexible location deployment schedules to accommodate the County's dynamic needs.

IP Voice Gateway

Deployment of the voice gateway project is in progress to allow the County to take advantage of the new digital technologies with the existing legacy phone systems until these systems can be replaced as defined by the County's strategic objectives. The first phone systems to be replaced will be at the Stephen P. Clark Center (SPCC), the Miami-Dade Police Department headquarters and the 311 Center.

Cyber-security Enhancement

Continued provisioning of County cyber-security technologies, standards and procedures is an on-going effort to ensure for the safeguarding of information and physical assets. The infrastructure is being enhanced via a 'defense in depth' strategy utilizing multiple technologies, including firewalls, intrusion detection and prevention, and security event and information monitoring, correlation and alerting, vulnerability assessment and penetration testing tools. ITD has implemented technical controls to ensure continued compliance with Payment Card Industry (PCI). Additional enhancements will address prevention, identification and notification of inadvertent and intentional disclosure of sensitive information and user identity and access management. As new threats emerge, ITD will utilize countermeasures and strategies to reduce risk to the County.

These are multiyear initiatives that allow scheduling flexibility and have integrated funding models to make full use of the resulting savings to avoid major capital requests.

RADIO & WIRELESS BROADBAND COMMUNICATIONS

800 MHz Public Safety Radio Modernization Project

The modernization project is to reduce radio frequency interference to public safety two-way radio communications by moving public safety agencies to frequencies in the 800 MHz band away from the interference caused by cellular carriers. A nation-wide issue, realignment of frequencies is a mandate of the Federal Communications Commission (FCC). Costs to achieve this effort are paid by Sprint-Nextel under the administration of the 800 MHz Transition Administrator (TA), which included a settlement benefitting the County and valued at over \$150 million with replacement of



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24,000 radios. The settlement provided the means for the County to replace its aging radio infrastructure with a new system that adheres to industry and federal standards for public safety communications. The project is targeted to be completed by December 2015.

Miami-Dade County has 30,000+ radios generating over 90 million calls a year and changing frequencies on an operational network with the quantity of radios is a significant endeavor. Work must be accomplished without affecting ongoing communications.

Deployment of Phase 1 is underway, with completion planned for December 2012. More than 30,000 radios are being reprogrammed to utilize frequencies for the existing and new network. Infrastructure improvements include replacement of an equipment shelter, upgrade of two radio towers (TCC and Interama), deployment of the new microwave system, Mutual Aid equipment deployment, as well as batteries, generators, and A/C systems being upgraded. All County agencies, municipality, state and federal entities having a radio communicating on the County 800 MHz network will be affected, with users requiring radio re-training. Replacement of mobile radios presents a significant challenge, with removal of existing radios from all vehicles and replacement that requires programming and testing.

Miami-Dade Wireless Information Network

In 2009, ITD deployed a private broadband network (3G) operating on a single 5 MHz channel in the 2.5 GHz band to provide wireless communications between traffic signals and the Advanced Traffic Management System (ATMS) managed and operated by the Public Works and Waste Management Department. Wireless routers installed inside equipment cabinets at traffic signals throughout the County deliver traffic signal information to ATMS 24 hours a day, 7 days a week. This network was designed to be a data network to support "in-street" requirements and has reduced carrier based leased circuit costs to the County through the Public Works and Waste Management Department.

There are multiple opportunities for County departments to achieve economies of scale, reduce carrier costs, and achieve higher levels of productivity with wireless technologies. Additional bandwidth is required in order enable high-speed video and data solutions across the County. To ensure future investments are made on the appropriate technology, ITD will be conducting a proof-of-concept demonstration of mission critical applications on a 700MHz broadband network at the earliest feasible date. Miami-Dade County has been granted by the FCC use of an experimental license in the 700 MHz Public Safety band. Using this license, a demonstration will include law enforcement and other first responders. The County's view is to realize true 4G data speeds for public safety users, and to accommodate both voice and data applications, separate uplink and downlink channels will be required. For this reason, the County along with other public safety agencies has urged both Congress and the FCC to allocate the entire 20 MHz of available 700 MHz spectrum to individually licensed public safety agencies.

SHARED SERVICES

Shared Services combines administrative and financial expertise to create centers for organizations. It is the provisioning of common functions previously performed independently by multiple areas within Miami Dade County to a single provider. By centralizing common back-office functions within a single provisioning entity, shared services eliminates duplicative services and systems, facilitates the standardization of policies and practices, generates process efficiencies and improves service levels by leveraging technology capabilities and existing

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investments. Additionally, the shared services approach provides better controls, data visibility, and creation of a platform for growth.

Several County shared services opportunities have been identified in such areas as finance, technology, and human resources. In partnership with the Finance Department, ITD is working to leverage the County's investment in the new Enterprise Content Management system to implement an accounts payables workflow solution using state-of-the-art technology. In the technology realm, enterprise solutions such as Geographic Information Systems (GIS), Enterprise Content Management (ECM), Enterprise Resource Planning (ERP), Enterprise Asset Management (EAM), and Business Intelligence (BI) provide common services throughout Miami Dade County. The integration of these technologies will provide shared business solutions to satisfy current and future needs utilizing central repositories and shared content.

FUTURE OUTLOOK

APPLICATIONS MODERNIZATION

Over the next several years, ITD will work toward simplification of the County's applications portfolio by implementing enterprise and contemporary technologies and upgrading and augmenting skill sets to support current and future County applications. This will be accomplished through the growth of enterprise solutions (ERP, GIS, EAMS, ECM), or through development or acquisition of new solutions. This modernization effort will also require updating the skill sets of the IT professionals in emerging applications technologies while simultaneously ensuring adequate ongoing support for legacy systems until such time as these systems can be modernized. Reducing complexity in the applications portfolio, leveraging technology and expanding the availability of self service components will enhance County staff and citizens access to data in a more timely and cost-effective manner.

Once the implementation of the A-Form project is completed, ITD will look to leverage the new capabilities of this tool and the lessons learned from its deployment to modernize other integrated functions within the Criminal Justice Information System, enhancing the data sharing and geospatial analysis capabilities for all municipalities and justice partners.

EXPANSION OF COUNTY CLOUD

As the County continues to expand its cloud capabilities over the next few years, ITD will be in a position to increase its ability to provide similar services to non-County entities such as local municipalities and state and federal agencies operating within Miami-Dade County. Successful implementation of expanded cloud services is expected not only to yield significant savings/cost avoidance benefits, but also to increase the County's ability to leverage its investment in its cloud infrastructure to generate incremental revenue from external sources.

The cloud services to be provided by the County will fully conform and exceed the top ten evaluation criteria for cloud service providers as reported by Information Week:

- True Multi-Tenancy
- Regularly Delivered Software Updates
- Seamless Integration on Demand

Delivering Excellence Every Day



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- Business Driven Configurability
- World Class Data Center and Security
- High Performance Sustainable Architecture
- Predictable Total Cost of Ownership Model
- Faster Deployment
- Control
- Liberation of Departmental Non-Strategic IT Issues

As new cyber-security technologies are implemented and existing technologies refreshed and migrated to a shared IP environment, ITD will provide guidance to enable secure access to these resources. Working with departments, internal stakeholders, and the IT Leadership Council, ITD will continue to improve security through the implementation of technology, policy and standards to ensure the County's risk exposure is minimized.

RADIO MODERNIZATION

Phase 1 of the Radio Modernization Project, to be completed in December 2012, will conclude once the P25-A system is fully accepted and tested. ITD will then begin Phase II which will involve additional infrastructure work to include the removal of network equipment from 11 radio sites and a second round of reprogramming of radios. During Phase II, public safety users will transition to the second P25 system (P-25-B).

If ITD successfully deploys a 700MHz broadband network to complement the existing 2.5GHz wireless network, day-to-day, task force and mutual aid response capabilities will be greatly enhanced by a full spectrum of interoperable IP multi-media applications, including:

- Streaming video (surveillance, remote monitoring)
- Digital Imaging
- Automatic Vehicle Location
- Computer Aided Dispatching
- Email
- Voice over Internet Protocol
- Mapping/GIS
- Remote Database Access
- Report Management System Access
- Text Messaging
- Telemetry/Remote Diagnostics
- Web Access
- Computer Aided Design plans access for utility workers
- Hazardous materials information access
- Building plans access for first and second responders

SHARED SERVICES

Over the next few years, ITD will be working collaboratively with the IT Leadership Council, OMB, and other County departments to clearly define the County's shared services mission, its relation to the customer based and its overall role within Miami Dade County. An overall strategy as well as effective mechanisms for oversight of the various shared services areas need to be developed to move the initiative forward. The costs and efficacy of existing structures must be measured



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and recorded in order to have a valid baseline against which to evaluate savings/efficiencies. Shared services entities will have to develop agreements with customer entities that detail the processes, service levels, timing, cost and other key performance factors. These will be used to create/update scorecard measures for evaluating the performance of the shared services entities.

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